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Nfld. Agricultural Board.

REPORT

OF

A. H. SEYMOUR

ON

The Possibilities of Agricultural Development

IN

NEWFOUNDLAND,

1909.

ST. JOHN'S, N.F.
"CHRONICLE" PRINT,
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REPORT

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ON
AGRICULTURAL DEVELOPMENT,
1909.

TO HIS EXCELLENCY THE GOVERNOR IN COUNCIL:

May it please Your Excellency:—

In accordance with the instructions from the Hon. the Prime Minister which are contained in the letter to me (copy of which forms Appendix A attached to this Report), directing that I enquire into the possibilities of agricultural development in this Colony, and study farming conditions in Canada with a view to suggesting legislation or other methods to be introduced here for the object desired, I have now the honour to submit the result of my investigations, both in this Colony and in the Dominion, and my recommendations with regard to the subject.

As a preliminary to the work assigned to me, lists of question were printed last July, signed by Mr. F. H. Simms as Secretary of the Board of Agriculture, and posted, to the number of 470, to all parts of the Island, where farming is carried on. To these queries a considerable number of replies were received. Attached

to this Report, marked "B," will be found an abstract of the information contained in replies to the circulars issued; also agricultural publications and other data bearing upon the matter under reference.

In considering the subject of agricultural development in this Colony we should begin, I submit, with the proposition that it is surely feasible to raise in this island all of the staple agricultural products required for domestic consumption, even if the exportation of agricultural products be considered out of the question for the present.

Agricultural Statistics From Census of 1891 and 1901.

In order to show the increased interest in agriculture and the enlarged prosecution of that industry, following chiefly upon the adoption by the Thorburn Government of the policy of a bonus for clearing land, and the formation of Agricultural Societies throughout the Island. I supply the figures as shown in the census returns of 1891 and 1901.

X Royal Commonwealth Society Library

	1891	1901
Acres occupied land.....	179,494	215,563
Acres improved land.....	64,494	85,520
Acres pasturage land.....	20,524	35,210
Acres garden land.....	21,813	35,867
Acres improved unused land.....	6,244	14,443
Wheat and Barley (bushels).....	491	824
Oats (bushels).....	12,900	10,773
Hay (tons).....	36,032	53,867
Potatoes (barrels).....	481,024	541,590
Turnips (barrels).....	60,235	65,527
Other root crops (barrels).....	5,041	3,560
Cabbage (barrels—50 heads).....	81,370	258,680
Horses.....	6,138	8,851
Milch Cows.....	10,863	14,160
Other horned cattle.....	12,959	18,599
Sheep.....	60,840	78,031
Swine.....	32,011	34,676
Goats.....	8,715	17,307
Powl.....	127,420	206,969
Cattle killed.....	7,713	7,415
Sheep killed.....	20,216	23,596
Swine killed.....	17,653	17,656
Butter made (pounds).....	401,716	673,974
Wool (pounds).....	154,021	199,377

Land Bonus and Agricultural Societies.

It will be remembered that the Thorburn Government inaugurated the land-clearing bonuses between 1885 and 1889 and the formation of agricultural societies throughout the island; that the cross-country railroad was constructed between 1891 and 1898 and the arable sections of the West Coast opened up to tillage; that the Winter Government revived the Land Bonus Act in 1898; and that the increased facilities afforded by the railroad, the springing up of new settlements along the line, and the movement of people from remote and rock-ribbed portions of the seaboard to productive locations in the bottoms of the Bays contiguous to the railroad, by which they could market the produce they raised, all contributed to bring about a marked activity in farming operations.

The Agricultural Commissioners of 1898 observe, with regard to the policy of a bounty for clearing land:—

"There is no part of the country that shows better results from the Bonus for clearing land which was granted by the Thorburn Government than the valley of the Codroy. The people cleared more land, raised more cattle, and a greater degree of prosperity was evident everywhere. A much greater improvement may be expected as a result of the more liberal Bonus of the present Government."

Increase in Agricultural Values During the Ten Years.

From the above tables it will be seen that the occupied land increased by 20 per cent. in the ten years from 1891 to 1901, the improved land by over 40 per cent., and the pasture and garden land each by 50 per cent., but the acreage of improved land that was unused, though small in itself, more than doubled. Oats showed an actual decline; hay increased 50 per cent.; potatoes only about 12 per cent.; turnips about 8 per cent.; where-

as cabbage was trebled. Horses, milch cows and cattle each increased about 50 per cent.; sheep nearly 33 per cent.; swine but 6 per cent.; goats over 100 per cent.; and fowls nearly 70 per cent. The cattle, sheep and swine killed exhibit only slight increase, but the butter made showed an increase of more than 60 per cent., and the product of wool 25 per cent.

The Customs returns for 1891, 1901-2 and for 1908-9, show the following import of animals:

1891.		
	Nos.	Value
Oxen, cows and bulls	2,512	\$101,846
Pigs and calves	118	590
Sheep	3,485	10,455
Horses and mares	230	16,100
		<hr/> \$128,991
1901-2.		
Horses, oxen and cows	2,286	86,674
Sheep, calves and pigs	3,188	10,431
		<hr/> \$97,005
1908-9.		
Horses, oxen and cows	2,943	168,111
Sheep, calves and pigs	2,533	9,988
		<hr/> \$178,099

From these tables it will be observed that the value of the live stock imported in 1901-2 was \$31,986 less than ten years previously, whereas during the past seven years the value thereof has almost doubled again.

Estimate of Value of Agricultural Products in 1891 and 1901.

I append an estimate of the value of all crops raised in 1891 and in 1901, and of all the cattle killed and other agricultural products marketed in the same years—the estimate being based on the declared value, plus the duty on the imports of the same items. This shows that in 1891 the value of wheat, oats, bay, potatoes, turnips, cabbage and other root crops raised; the value of the cattle, sheep and swine killed; the value of the local butter made and wool sheared, that is to say, the total value of the agricultural products of our people, consumed or sold for that year was \$1,862,264 while in 1901 the figures were \$3,532,764, an increase of virtually one hundred per cent. in ten years.

In addition to this, it must be remembered also that a certain number of cattle, horses, sheep, swine and poultry were raised in the Colony during each of these years, and other imported, and it is, of course, impossible to ascertain the number and, therefore, the value of these

	1891	1901
Wheat and barley.....	at \$1.00 bushel.....	\$ 491
Oats.....	at \$1.00 bushel.....	\$ 824
Hay.....	at 50 cents bushel.....	6,450
.....	at \$12.00 ton.....	132,384
Potatoes.....	at \$1.00 barrel.....	484,024
Turnips.....	at \$1.00 barrel.....	60,235
Other root crops.....	at \$1.00 barrel.....	5,041
Cabbage.....	at \$3.50 barrel.....	284,795
Cattle, killed.....	at \$30.00 head.....	231,390
Sheep, killed.....	at \$3.60 head.....	72,777
Swine, killed.....	at \$10.00 head.....	176,530
Butter, made.....	at 20 cents lb.....	80,343
Wool.....	at 20 cents lb.....	30,804
		\$1,862,251
		\$3,532,764

Value of Agricultural Products Now Impossible to Estimate.

Until the next census is taken, a year hence, it will be impossible to determine accurately whether or not the progress made in agriculture amongst us the previous decade has been maintained, but if it has the fact must be attributed very largely to the continuing influence of the policy of the land bonus and the opening up of the interior, as there has been nothing in the legislation of the past ten years to beneficially affect this industry or even to exert any stimulating influence upon it. The steady increase in the cost of living which has been observed amongst us, and the advancing price of farm products would tend to the conclusion that the supply of agricultural products raised in the Colony is not keeping pace with the demand. Thus, we find Prof. C. A. Zavitz, of Guelph Agricultural College, who was brought here by the late Government two years ago to investigate our agricultural progress, observing:—

"I am certainly surprised to find that the prices of farm products are so high and that such large quantities of these products are imported from other countries, when so many of them could be grown in abundance on the Island. I would not favor the extensive growing of wheat or of a few of the other crops, but I do believe that vegetables of nearly all kinds, oats, barley, potatoes, mangels, field turnips, many of the small fruits and certain other crops could be grown in abundance to the advantage of both the producer and the consumer, providing proper methods of agriculture were adopted."

Whether we assume, for argument sake that the products of our agricultural industry in 1909 were only what they were in 1901, or that they have increased, (as the population has increased some eight per cent. in the same period), the fact nevertheless remains that we

import annually large quantities of agricultural and food products which might be raised at home. Of these the following can be wholly raised here, though the last year's Customs returns show that the imports were:—

Beans	\$17,690.00
Cabbage	9,758.00
Peas	36,325.00
Potatoes	35,083.00
Vegetables including turnips, potatoes, carrots, parsnips, squash, cucumber pumpkins	20,464.00
Apples	43,829.00
Animals	178,099.00
Butter and Oleo...	106,770.00
Cheese	40,074.00
Eggs	11,198.00
Hay	37,747.00
Jams	6,764.00
Lard	5,084.00
Oatmeal	24,182.00
Oats	97,607.00
Oil-cake, etc.....	92,267.00
Fresh Meats, Saus- ages and Poultry	55,591.00

\$828,532.00

The imports of salted meats, hams, pork, etc., and of flour amounted in 1908-9 to

Meats, canned, etc..	\$ 14,917
Meats, preserved ...	7,732
Meats, bacon, hams, smoked	22,735
Meats, bacon, hams, salted	34,433
Meats, dry salted...	4,472
Meats, salt beef in barrels	388,873
Meats, heads, hocks, and ribs	36,304
Meats, jowls and tongues	14,518
Meats, pork, mess...	400,489
Meats, pork, family mess	20,810

\$941,283

Flour

\$2,717,321

Local Food-Stuffs as Substitutes For Flour and Pork.

While it may not be possible to produce these latter commodities in the Colony, in the near future at any rate, or until agriculture makes much more rapid stride than it has made thus far, there is no reason why, as Sir Edward Morris has already pointed out, there should not be a substitution of other articles for these to a very large extent. As has been stated, the per capita consumption of flour in Newfoundland is the greatest of any country in the world, whereas we should be raising our own food stuffs here and substituting them for flour and pork imported from abroad. With the figures as above, it is not difficult to realize that the possibilities in the direction of agricultural development along new lines are very great, and that active work in those directions can accomplish much, while the facts also indicate what possible misdirected agitation has effected. For instance, there has been a general outcry in recent years for a duty on hay, though last year's figures show that the total import was but 2,966 tons, valued at \$27,747, and that the duty only realized \$8,898, whereas the domestic production of hay in 1909 must have been worth nearly one million dollars. It should also prove a revelation to our people that the local product of cabbage is twice as valuable as the seal fishery.

Canada's Methods of Promoting Agricultural Progress.

Before considering methods which might be employed to develop agriculture in this country, it may perhaps be well that I briefly review the methods in vogue in the neighbouring Dominion. The Federal Government maintains a central experimental farm at Ottawa, and provincial farms in the different provinces. One is provided at Nappau, N.S., for the use of Nova Scotia and New Brunswick.

In addition to these Federal Institutions, the province of Ontario maintains an Agricultural College at Guelph, which has now been in ex-

istence for nearly 30 years, and which has a high reputation throughout the provinces, though it must be admitted, in connection with this institution, that the argument is advanced by critics of the policy, and seems to have something to sustain it, that comparatively few of the graduates of the Institution ever go back to the farm or engage in practical husbandry afterwards. Some of them become attached to the Federal Experimental Farm and its subsidiary branches and others migrate to the United States, where there is a large field for their trained intelligence.

The province of Quebec is without any provincial establishment of a similar character, but its place in that province is taken by the MacDonald Agricultural College at St. Anne de Bellevue, 20 miles from Montreal. This Institution was founded by Sir William MacDonald, so well known for his benefactions to McGill University, of which it is really part, being affiliated to that Institution, and representing its Agricultural Branch. It may be said to be the last word in agricultural progress in the Dominion, if not, indeed, in the world. Sir Wm. MacDonald selected to found this Institution the eminent agriculturist, Dr. James W. Robertson, C.M.G., who first became famous as Dairy Commissioner of the Dominion in connection with the Dominion Experimental Farm, and subsequently as Commissioner of Agriculture under the Federal Government, in which capacity he earned great distinction. He resigned from the Government service some four years ago, and undertook the establishment of this College, which he has just recently put in complete working order, and he retired from the Presidency at the close of 1909, to devote himself to the work of the Conservation Commission at Ottawa, which aims to utilize the great wealth of the Dominion for the public advantage. The College at St. Anne de Bellevue, for construction, equipment, provision of stock and everything necessary to the complete working of the institution, cost \$3,000,000, and

Sir Wm. MacDonald provided it with an endowment of \$2,000,000, which yields an annual income of \$80,000 for its maintenance, payments of its staff, and the necessary expenses which sum, it is understood, is by no means adequate to its requirements, though it is supplemented by the annual amount realized from the sale of agricultural products grown on its farm. This institution, in addition to serving as an Agricultural College, has also a Domestic Science School, wherein farmers' daughters, preferably, and otherwise girls of the same station in life are trained in Domestic Economy, or Household Science, that is to say, everything necessary to the proper carrying on of a home; and there is, moreover, in the same institution a College for the training of teachers for the Quebec schools under the Protestant Boards of Education. A visit to this institution at St. Anne de Bellevue may make one pause in considering the possibilities of agricultural development in this country, and especially in considering the desirability of adopting the policy of an Experimental Farm or Agricultural College, or a combination of the two, a matter which will be dealt with later in this report.

At Truro the Provincial Government of Nova Scotia has established an Agricultural College under the direction of Prof. Cumming, and as climatic and other conditions in Nova Scotia correspond most closely to our own, it should afford us the best object lessons and information calculated to prove of benefit to our people in any agricultural policy decided upon.

What the Farmers Do in Canada to Help Themselves.

In addition to these institutions, agricultural societies and kindred associations do great service towards stimulating and maintaining interest in husbandry all over the Dominion and especially throughout the province of Ontario. Every possible combination of interests has its own particular organization. There are

Agricultural Societies proper, with which we are familiar on a somewhat limited scale. Then there are Farmers' Institutes, which have halls or buildings, in every town or village, where agricultural papers and similar literature are provided, and where farmers can meet on occasions and discuss these matters, and listen to addresses by travelling lecturers, maintained both by the Federal and Provincial Governments. There are Live Stock Associations, Sheep Raising Associations, Cattle Raising Associations, Horse Breeders Associations, Poultry Keepers' Associations, and numerous others, all dedicated to the advancement of their particular branch of the farming industry. Fairs are held in every town in the provinces during the autumn, and other fairs are held in the winter. A notable instance of the latter was one at Guelph in December, at which there were some 3,000 exhibitors. These fairs, both fall and winter, are attended by farmers from all over the country, and the best experts from Guelph, MacDonald and Ottawa are judges.

The Problem in Canada.

The Dominion, despite its amazing progress in the matter of agriculture as well as otherwise, is not without its agricultural problems also. The reduction of the number of producers is the reason attributed by Mr. C. C. James, Deputy Minister of Agriculture for Ontario, for the high prices of food products about which there is so much complaint. Before the Ontario Association of Fairs in December, Mr. James stated that the rural population of Ontario had decreased from 1,108,874 in 1899, to 1,047,016 in 1909. In the same ten years the population of cities and towns had increased from 901,874 to 1,197,274. The remedy advocated by the Deputy Minister is such improved conditions of agriculture as will tend to prevent the serious movement of the rural population to cities and towns.

The Experimental Farm at Ottawa, and its subsidiary associa-

tions, do not train students, but devote themselves entirely to experimental work, the results of which are disseminated all over the Dominion, by means of pamphlets, bulletins, and like literature. Similar work is done by the Ontario Government through its Agricultural Department and the agency of Guelph College, but the Quebec Government and the Macdonald College have not yet begun the issue of literature, though it is in contemplation. I might mention here that a Roman Catholic Institution which is the complement of Macdonald College is maintained by the Trappist Monks at Oka, some few miles from Macdonald, and where like training is imparted.

What Are the Agricultural Possibilities of Newfoundland.

We have now reached the point where we must ask ourselves (if the figures already given do not supply the answer), what are the possibilities of Agriculture in this Colony?

In the year 1898, the Government of Sir James Winter appointed an agricultural commission to investigate farming possibilities of this Colony, and in its report, which was the work, I understand, of the distinguished ecclesiastic and agriculturist, who was its Chairman His Grace Archbishop McDonald, then Bishop of Harbor Grace, I find the following extract:—

"The Agricultural Resources of the Colony are considerable. . . .
 "The best farming land in the Colony is, beyond doubt, in the valley of the Codroys and on the banks of the Humber and of its tributaries. . . .
 "Large areas of arable land are also on the margins of the Exploits and other rivers, and at the bottom of some bays, notably Sweet Bay in Bonavista. . . . Here, however, suffice it to remark for the present, that there is in sight land enough and of good quality, if its resources are developed with intelligence and judiciously, to make farming an in-

dustry of great possibilities for enhancing the general prosperity of the people."

What Can Be Grown Here?

To the supplementary question—"What agricultural products can be raised here?"—Prof. Zavitz, of Guelph Agricultural College, supplies the answer, thus:—

"Newfoundland has greater agricultural possibilities than I had expected to find. . . . It is true that some of the crops cannot be grown satisfactorily, it is just as true that many others can be grown with excellent success. . . . I consider that there are many varieties of oats, potatoes and other crops grown on the Island which are comparatively light in yield and which are so late in ripening that they could be replaced by other varieties decidedly more suitable to the conditions of soil and climate, as, for instance, the Early Rose potatoes and the Black Tartarian oats, which are grown so extensively in Newfoundland, were prominent varieties in Ontario twenty-five years ago, but have been almost entirely replaced by other varieties which have been found by careful tests made at our experimental farms during recent years to be much superior. There are also some classes of crops which would likely do well in this climate but which appear to be practically unknown on the Island."

Opinion of Mr. Beach Thomas on Our Farming Resources.

The testimony of Mr. W. Beach Thomas, agricultural expert of the London Times and founder of the London Daily Mail's Exhibition Farm by which he introduced intensive farming into England, is equally valuable. He says:—

"My experience has been gained in England, France, Belgium and Holland. England is a curiously various country. It possesses as

"many different soils and climates
 "as there are counties. I have vis-
 "ited every centre of agriculture
 "and gardening there, many in
 "France and several in Holland and
 "Belgium. My experience in these
 "countries may be of some advan-
 "tage. It is possible also that I
 "may be able to tell you something
 "of your interior. I spent three
 "weeks at Grand Falls, the greater
 "part of which has been spent in
 "looking over the farms at Grand
 "Falls and in that vicinity. There
 "are two farms there, one of thirty
 "and the other of eight acres. I
 "might describe briefly how the
 "thirty acre farm especially struck
 "me. When I got to the apex of the
 "farm, I came upon a meadow where
 "grasses and clover flourished as
 "luxuriantly as they do in England.
 "As I topped the brow there was a
 "large patch where four young
 "calves, one of which was a Jersey,
 "were eating turnip-tops. In Eng-
 "land we do not rear Jerseys cows,
 "as they are too tender, but since
 "coming to Newfoundland I have
 "seen a couple of places where Jer-
 "sey cows flourished exceedingly
 "well. Further on I came upon po-
 "tato and turnip crops which are at
 "least as good as could be found on
 "any ordinary farm in England.
 "As you took up handfuls of the
 "soil it would be found to be of that
 "crumbly nature which is what the
 "market gardeners in England most
 "desire. I am quite certain that if
 "you could plant down the farm of
 "Rushy Pond in England, numbers
 "of market gardeners would pay two
 "or three pounds an acre, because
 "of the quality of the soil, for po-
 "tato land. Results, of course, are
 "not processes, but results speak for
 "themselves both in the garden and
 "the farm. The little garden in
 "front of the Log House at Grand
 "Falls grows different flowers, all of
 "which may be seen in England,
 "such as helianthus, bergamot,

"phloxes, sweet peas and mignon-
 "ette. I also passed through gar-
 "dens in which cauliflowers flour-
 "ished which could not be beaten.
 "I myself cut heads of corn, as good
 "as could be, and it struck me that
 "this corn or maize would make ex-
 "cellent cattle fodder. I also in-
 "spected turnips, potatoes and cab-
 "bage which were as good as any
 "raised in England. Newfoundland
 "is a big and various country. What
 "grows in one place would not grow
 "all over. Mr Howley, the Director
 "of your geological survey, is grow-
 "ing luxuriant crops of every sort in
 "a temporary homestead of his over
 "a coal mine. It does not follow
 "that because he is doing that in a
 "certain part of the country that
 "you could get homesteads dotting
 "the Gaff Topsalls, but I do mean
 "to say that in certain places, and
 "I think in a good many, farmers
 "could succeed, so far as soil goes,
 "and so far as climate goes, quite as
 "well as in any country with which
 "I am acquainted."

How Can Agriculture Be Promoted Amongst Us?

It being determined, by the evi-
 dence of these impartial authorities,
 that we possess the tillable areas
 and that their productiveness, both as
 to quantity and variety, is beyond
 question, we have next to ask our-
 selves how a more widespread
 interest in agriculture amongst us is
 to be promoted.

After mature consideration and a
 close study of the conditions exist-
 ing in these institutions, I am by no
 means assured of the wisdom of the
 establishment of anything in the
 nature of a Model Farm, Exper-
 imental Farm or Agricultural College
 in this Colony.

Archbishop McDonald's View.

To this subject His Grace Arch-
 bishop McDonald in the Report of the
 Agricultural Commissioners of 1891
 thus refers:—

"Agriculture in Newfoundland

not as yet sufficiently advanced to warrant the Government in establishing special institutions of agricultural education, such as Agricultural Colleges, Farming Schools, Model Farms, Experimental Stations of other countries. The probable results from like educational institutions in our Colony would not, in the opinion of your commissioners, be at all commensurate with the expenditure of money which the establishment of them would necessitate. We recommend instead that a museum of agricultural instruction be imparted in our present schools and under our present educational system. This may be done at a small cost to the country."

Governor MacGregor's View.

This conclusion is endorsed by His Excellency Sir William MacGregor, late Governor of this Colony, in an address delivered at the opening of the Agricultural Exhibition at the British Hall in October, 1906, in which he says:—

"It is improbable that a Model Farm will be established here for some time to come that would be able to take and train resident pupils in agriculture; more could probably be done by having two or three travelling agricultural inspectors or teachers. The travelling modern dairy, under a perambulating dairy professor or teacher, has worked wonders in the dairy districts of Australia and has, with the rigid inspection practised, led to a great and valuable export. I find that in Italy there are now 75 travelling agricultural teachers. If we had such men here they would visit the farm of every farmer in the Colony, and advise its owner as to all matter connected with its development and management. I am well aware that farming has not yet been reduced to the position of an exact science. For example, it is not always quite clear what may be the best manure to apply,

"or even the most suitable crop to put in; but, in spite of all that, the agricultural travelling teacher could do a vast amount of good in a very great variety of ways, and the results of his teaching would be immediate."

Rev. J. Reay's View.

In Agricultural Interviews published by the Harbor Grace Standard in 1906, Rev. J. Reay says:—

"I do not think model farms would be of any service yet. But I do think that men who have cleared a farm in the wilderness, and are living upon it, should have every encouragement given them in the way of roads, and wharves, and reduced freight."

Prof. Cumming's View.

Prof. Cumming, head of the Nova Scotia Agricultural College and a graduate of Guelph College, informed me that he did not approve of a model farm for this Colony at this time as it would be too expensive for, and not suitable to the requirements of our people. He suggests that a travelling farm instructor would do more to advance farming, and that if the Government were to take the best farm in each farming district and help by giving farming implements, etc., to the owner, conditionally that he should take in young men, free, to teach them farming and the use of machines, and loan machines to them, and that a travelling Superintendent of Agricultural Societies should visit the farming settlements yearly and lecture, at which all the farmers should attend, it would be the right thing to do. In his opinion, Newfoundland could raise all fruits that are raised in the Maritime Provinces with success, and he is now experimenting in this direction in Cape Breton. The system he adopts is to get a farmer to clear, say, two acres of land, which the Government plant in fruit trees, and the farmer attends to them, carrying out the Government instruc-

tions for fifteen years, when the orchard becomes his property, and the fruits from the trees, as they bear, are the farmer's property also.

Model Farm Too Expensive.

A further reason why in my opinion an Experimental Farm or Agricultural College would not be desirable in this Colony at the present juncture is that so far as the experimental work is concerned all that we can hope to learn from such an institution here we can obtain from the literature provided and the experiments undertaken by the Canadian and Provincial Governments at Ottawa, Guelph, MacDonald, Nappan and Truro. The most essential problems as to the best breeds of live stock in countries like ours, the best kinds of seeds to thrive in our climate, and all such matters, have been practically solved already, while if it were to be made an instructional institution with a number of students admitted, the cost of maintaining such an institution and providing a competent staff of teachers would be altogether disproportionate to the advantages to be obtained.

Personally, from the information I have gathered, I favor the employing of competent travelling inspectors or teachers, men who could organize agricultural societies and farming institutes all round the Island; impart instruction in all the rudimentary branches of farming; address meetings of the people and stimulate an interest in agriculture, and, generally, bring home to every farmer throughout the Island, and to every man who cultivates a plot of ground, the methods by which he could secure the maximum of advantage therefrom.

An Example From Italy.

Hon. Sidney Fisher, Minister of Agriculture for the Dominion, in an address before the Canadian Club of Montreal in December last, astounded his audience by stating the fact, previously unknown in

Canada, except perhaps to a limited circle of agricultural experts, that Italy is one of the foremost agricultural countries of the world and actually produces more wheat every year than the great North-west of Canada, though the latter has come to be associated in the public mind, at any rate in English speaking countries, with the idea that it is the world's greatest granary. It will be noted that in the foregoing extract from Sir William MacGregor's speech he emphasizes the fact that Italy maintains no fewer than 75 travelling agricultural inspectors, a fact which, taken in conjuncture with her amazing agricultural progress, shows that she evidently considers this policy the right one.

Travelling Teachers.

The utility of travelling teachers for agricultural purposes is now considered as beyond question by all agricultural authorities in the Dominion. The Federal and Provincial Departments of Agriculture maintain them, and they are unceasingly active in their work. The agricultural progress of Ontario has been enormous in the past ten years and every farm product is raised, while the Niagara peninsula produces grapes as delicious as any the world can yield. The growing of berries and of all such fruits is extensively carried on, the area under cultivation is being extended every year, and the farming interest of the province has assumed remarkable proportions. If one or two competent men of this class could be secured to labor amongst our people for the next few years, I am confident that very beneficial results would accrue.

Agricultural Societies.

The formation of agricultural societies or similar bodies is, my observation leads me to believe, an essential preliminary to the success of any agricultural policy in this country. At the present moment there are but three Agricultural Societies in Newfoundland, so far as I can ascertain—

at St. John's, one at Harbor Grace and one at Codroy. In Nova Scotia, on the other hand, there are 76 with a membership of 7,500, the members of which have Government grants amounting to ten thousand dollars and funds of their own to twelve thousand annually.

A study of the Agricultural literature of the Dominion and several Provincial Departments, and of the commercial publications devoted to the same industry, shows that these Societies are frequently meeting and being addressed by representatives of the Departments or officials of the Model Farms and Colleges, and an effective interest in the industry thus maintained.

Cattle Raising.

A glance at the statistics supplied in the preceding pages must convince the most skeptical that a splendid and profitable industry could be developed in this Colony in raising cattle for local consumption. It is impossible to ascertain, unfortunately, the number of cattle, sheep, pigs and other animals of domestic growth, which are now killed annually in the Colony for food purposes, but their number must be large and their monetary value considerable, while very many of the imported live stock are brought here, as we know, for the same purposes. The first essential towards the creation of a local industry of this character it seems to me, is the removal of the duty from hay, which has been advocated by many prominent agriculturists in this Colony and notably by the late Rev. Bro. Slattery, Principal of Mount Cashel Orphanage, who was always in the van with regard to agricultural matters. The next essential is the securing of a desirable class of live stock for this purpose. Canadian opinion favors Ayrshire cattle or French-Canadian cattle. I think great gain would result from the procuring of good stock of the latter class. The authorities of Quebec and Ontario, where the climatic conditions are somewhat similar to our own, say that

these animals are very hardy, easily foraged, give generous yield of milk and fatten steadily, so that they are good for dairy purposes as well as for meat.

All the conditions supporting the theory of environment and judicious breeding producing a stock to suit the requirements of a country would indicate that we should have a most valuable class of farm stock introduced here in these French-Canadian cattle. Prof. Cumming, of Truro, favors Ayrshire cattle dairy shorthorn cattle and French-Canadian cattle. Archbishop McDonald, of Pictou, also recommends French-Canadian cattle. Drs. Saunders and Rutherford, of Ottawa, do the same.

When it is remembered that last year the total value of the animals imported was \$178,000, and that all of these animals, numbering 5,496, except some 250 horses, are available for human food, it is but fair to conclude that the raising of cattle for food purposes in this colony represents an industry of \$150,000 to \$200,000 which could be developed here, in addition to that already existing. How is it to be developed? The people in our farming sections say—By a bonus for clearing land, by importing good breeds of cattle and sheep, by improving the qualities of seeds to raise the vegetables required for local use, by prohibiting scrub cattle from running at large, and by building roads through the farming sections.

Dairy Farming.

With an annual import of butter to the value of \$100,000, and of cheese of \$40,000, it should be unnecessary to waste words to advocate dairy farms in this Colony. Through the energy and almost unaided efforts of Prof. Robertson the dairy industry of Canada was built up during the past 20 years, and an industry of many millions of dollars in exports, not to speak of the local consumption, was realized. What has been done in the Codroy Valley and near St. John's, in the direction of attempting to meet the local requirements as to dairy products, in-

icates how this area of enterprise can be largely extended. The great advantage of the dairy industry is that it provides at once a constant source of revenue, and also contributes largely to maintain the fertility of the soil. A great drawback to stock raising and dairying is the lack of hay and other crops suitable for feed, for it is well known that in any season when hay is scarce, people have to kill off the surplus live stock because they cannot pay the high price for this feed, or else there is a tendency, on the other hand, to part with the stock and sell the hay for the high cash figure obtainable. On the other hand, when hay is cheap more stock is raised, and it is either turned into beef or more butter is made. The advantage is that these products command a better market-price, and are sold from off the farm at very much less expense to the fertility of the soil, than when the crops are sold directly from the fields. The manure obtained at the same time affords the best means of fertilizing the ground.

Mr. Beach Thomas Advocates Dairy Farming.

Mr. W. Beach Thomas, in the Address to the Board of Trade on agricultural matters at St. John's last October, from which I have already quoted says in this connection:—

"It seems to me that if farming is to be developed in this country, it is absolutely necessary for you to grow seed, oats, or corn for the sake of the straw; to farm successfully it is necessary to put back on the land a great deal you take off. In England the ordinary tenant farmer is not allowed to sell off the land the straw growing on it. This regulation exists because it is necessary that what is grow should go back in farm manure. You cannot take oats apart from live stock, and in Newfoundland when you can so easily grow all the food that is necessary to feed the stock well, it seems strange that this branch of farming is not more followed.

"The beast, when fed, will re-fertilize the soil, and prove valuable in every way. There is a plentiful market for meat as well as for milk, and these beasts, when well fed, will yield a splendid return. The difference between a two gallon cow and a four gallon cow is something like \$700 a year, the entire difference between success and failure. I feel sure that the crops of oats which you are going to grow will yield two or three times as heavily as they would if improved sorts of grain were procured and substituted for those generally grown here."

Prof. Arkell Advocates Stock Raising.

In the same connection Mr. H. S. Arkell, Professor of Animal Husbandry at Macdonald Agricultural College, in the Journal of Agriculture for December, deals with this subject in an article from which I make the following extract, the importance of which is my justification for giving it so fully in this report:

"There are few more important problems than this one of feed, whether of land or of live stock. In speaking with the Danish Live Stock Commissioner, Dr. Morkenberg, he stated that this problem was really the starting point of the work which, during the last few years has gained such a wide reputation for his country. The land had become so hungry that it would not produce. Cattle were so ill-fed that they had become unprofitable. In 1864 the average production of Danish cows was 68 lbs. of butter per cow. In 1908 the average production had risen to 22 lbs. per cow. These figures tell the story. In the case of both land and cattle it has been a question in part at least, of more feed and better feed. Denmark has become one of the great agricultural producing countries of the world and the profit of her butter and bacon industries has been attained, first of all, by bringing back again fertility to the land through the use of manure and, secondly, through the attention that has been paid to

the breeding and management of dogs and cows. The ways of the British farmer and stock breeder form a good object lesson in this connection. I know of no country where greater attention is paid to the cultivation and manuring of land nor where, notwithstanding the expenditure, greater net returns are obtained per acre. The crops of the soil are studied systematically from year to year and the farmer gets the dressing of nitrates or phosphates or lime frequently more profitably than we practice a rotation of crops. The system of stock feeding would also surprise us with its generosity. Oil cake is regularly fed to dairy cows on pasture on many farms. Calves are fed naturally and generally attain their growth and maturity at a surprisingly early age. Steers are fattened and given a finish and condition in much the same fashion as our best breeders fit their cattle for the show ring. Sheep and lambs are given a shepherd and receive the best that the land will produce of turnips, vetches, rape or pasture. Horses are tended and fed with a care that keeps them with sleek coats, round ribs and active spirits. It pays. Quebec farmers have made a practice of selling hay and oats to a greater or less degree. Perhaps this may be necessary, perhaps not. Crops have been reasonably abundant this year while prices for these will bring only a fair return. On the other hand quotations for hogs, beef and dairy products have rarely been better. Let me suggest that the experiment be tried of retaining on the farm all that has been grown in the fields and of feeding it to live stock. Let not more be kept than can be fed well. Through the winter and in the spring a return will be made to the land through the manure. The revenue for the year is to be expected and obtained only from animals and animal products sold upon the market from time to time. It will pay. Further, I know it to be true; it is the only kind of farming which in Quebec will pay."

Sheep Raising.

The problem of sheep raising is one which will have to be faced in this country in a vigorous fashion before many years. If this industry is to be pursued to any great extent, and there seems no reason why it should not become as profitable here as in the neighboring provinces—then the abolition of dogs must be undertaken without delay, for sheep raising is impossible while dogs continue, and, in the main, dogs have ceased to be of any value. Formerly, before the railroad put our people in close touch with the woodlands from which they obtained their winter's firing, the dog was necessary, but the use for him, especially in our most populous centres, has become less very year, and it is a question whether, at any rate, in such sections as Conception Bay, Southern Shore, Placentia Bay and other districts, that have all the facilities for sheep raising and are within close proximity to a market, both for wool, skins and meat, the complete abolition of dogs should not be decreed. If this were done woollen mills could be started, and the wool could be manufactured, thereby providing an important local industry, seeing that the imports of articles coming under this heading last year were as follows:

Approximate value of woollen goods imported into Newfoundland for year ending 30th June, 1909:

Blankets	\$12,787
Flannels, Swanskins and Serges.....	16,299
Socks and Stockings (woollen)	8,600
Readymade Woollen Clothing	135,000
Shirts and Drawers (Woven)	49,512
Yarns	17,394
Tweeds	81,317
Woollen Dress Goods..	53,316

\$374,225

On the subject of this Colony being able to raise sheep very largely. Mr. Beach Thomas says:—

"There are people who believe pre-eminently in the country as a sheep country. It certainly is a great sheep country. You will find ultimately, and it is a safe prophecy for me to make, sheep ranches over the country. The sheep is the hardest of all animals, rejoicing in cold, and a very small amount of protection would enable it to live and flourish over large stretches of country; and here again it is very necessary to get the best sort. A good Highland sheep would flourish where the South-downs would die, and success depends entirely upon introducing into this country the breed of sheep best suited for it."

Hog Raising Industry.

When it is remembered what an enormous demand there is in this Colony for pork and other products of the pig in salted, smoked or otherwise preserved condition—our imports of such last year amounting to virtually one million dollars—it seems surprising that more is not done by our people in the way of raising pigs. This is an industry, which of late years, has assumed large proportions in the Dominion of Canada and which there is no valid reason for our people not embarking in more largely. All the authorities with whom I conferred in the Dominion and all those with whom I discussed the subject here at home, emphasized the fact that it was a highly profitable undertaking, but, strangely enough, farmers in this Colony do not follow this pursuit any way largely. Mr. Bayly, of Grand Falls, has some of the finest pigs I ever saw, raised in this country; and what it is possible for one man to do others should be equally successful in. The Canadian Department of Agriculture has recently issued a bulletin on "The Leading Breeds of Swine Reared in Canada." This bulletin observes "that while many of

"the breeds of swine have been evolved and are bred for meat production, only a comparatively small number have become popular in Canada, and the tendency is towards a further reduction in this number. During the past two decades the tendency has been towards the production of hogs suited to the requirements of the bacon trade, with the result of popularizing these breeds best adapted to this purpose. The breeds of swine most commonly bred from in Canada are the Yorkshire, the Tamworth, the Berkshire, and the Chester White. The Poland-China and the Duroc-Jersey are also bred to some extent. The Yorkshire and the Tamworth are recognized as being especially suitable for bacon production; while the Berkshire and the Chester-White of the improved type occupy an intermediate position between the bacon and lard types. The remaining two be- position between the bacon and the lard types. The remaining two belong to the fat or lard producing class, very popular in the corn belt of the United States. The relative numerical standing in Canada of the breeds named is fairly well indicated by the fact that in 1906 there was in the membership of the Dominion Swine Breeders' Association 185 breeders of Yorkshires, 147 of Berkshires, 37 of Tamworths, 28 breeders of Chester Whites, 8 of Poland-Chinas, and only 3 of Duroc-Jerseys."

It may not be amiss to point out, in this connection, that as long as twelve years ago, the Agricultural Commissioners of 1898, remarked upon the prompt need of improving the breed of pigs on the West Coast, saying:—

"The farm live stock seen in the Valley should be improved gradually, but none should be superseded with the exception of pigs. These should be at once supplanted by a fresh stock of some good variety."

Abundant evidence can be obtained as to the profit there is in raising pigs, and the "Standard," in its agricultural interviews, quotes Mr. J. J. Walker, of Harbor Grace, as stating that he had got \$40 for a pig eleven months old; and the securing of desirable breeds of these animals ought to be followed by a decided impetus in this direction.

Poultry Farming.

The possibilities of poultry farming are sufficiently apparent to all observers to render any detailed advocacy thereof unnecessary. The prices obtained for table poultry and eggs in this Colony assure a profit to the producer, under good management, and when one considers the import of eggs and dressed poultry, and the possibility of using these food stuffs as substitutes for the articles now imported, it must be apparent that, developed along the right lines, there should be considerable money in this industry, even in the rudimentary way in which poultry keeping is conducted in this Colony. There are very few large poultry farms in Canada, where the tendency is rather to extend the industry by the farmers cultivating the fowls themselves as a regular paying part of the barn-yard stock. There has been an enormous increase in the poultry business in Canada of late years, and it is said that Ontario has now 12,000,000 hens, or twice as many as at the last census there, and in spite of this enormous increase the difficulty is to supply the home markets, for the exportation of eggs has almost been abandoned. In no way could greater service be done the whole of our out-port people in this country than by the devising of some means for encouraging the more general raising of poultry in their homes, as even if the eggs were only used for domestic consumption the general interests would be served, as they would displace to some extent other articles now imported.

Turnips.

The growing of turnips and other root crops, which enter largely into the feed of cattle, is comparatively neglected in this country, though it is one of the phases of agriculture which has been much encouraged in Canada. The Scottish Agriculture Commission of 1906, an aggregation of some twenty eminent Scotch agricultural authorities, which made a tour of the Dominion from Prince Edward Island to British Columbia, emphasized this fact; and in Ontario and the North-West special attention is paid to this, as the growth of stock raising in the North-West provinces necessitates a large culture of root crops and especially of turnips, for, as the Scottish Commission points out, "the provision of a succulent diet throughout the long severe winter for any but a limited number of cattle must be very difficult."

With us in Newfoundland the conditions are much more favourable than they are in North-West Canada, and therefore we should be able to develop a substantial increase in the growth of turnips and allied crops for this purpose. The Scottish Commission observes:—

"The feeding and foods of cattle are naturally regulated by the climate. Where the rainfall is great or more evenly distributed turnips and mangolds can be very successfully grown, and where this is the case there is little difficulty in seeing the stock safely through the winter, with the help of the hay previously made, and some bran or other artificial food."

Potatoes.

With regard to introducing new seed for potatoes, Dr. Robertson, Principal of the Agricultural College at St. Anne de Bellvue, Quebec, and the foremost agriculturist in Canada, if not in the world, is opposed to the importation of special seed, saying that it does not give, for a year or two, the expected results, owing to the transplanting; and that it is therefore likely to discourage those

who have it, rather than encourage them. He favors the growth of seed in the Colony itself, a favorable locality being chosen and an experimental plot being sown with potatoes—the largest of the resulting tubers being then picked and retained for seed for the next year, and this process being repeated for a few years until a potato is obtained perfectly suited to local requirements.

Prof. Cumming, of Turo College however, recommends for early potato crops "Early Six Weeks" and "Beauty of Hebron," and for late crops "Prince Albert" and "Dakota Reds," the seed potatoes of these varieties, he thinks, will be best procured from P. E. Island or Nova Scotia. The average crop in Nova Scotia is 15 barrels to one of seed. Archbishop McDonald thinks that Prince Albert potatoes from P. E. Island would be the best for us to procure as seed. The same potatoes also go under the names of "Calicoes" and "MacIntyres." The agricultural authorities in Prince Edward Island recommend the same qualities of potatoes. Professor Riddick, Dominion Commissioner, considers P. E. Island or Nova Scotia seed potatoes would suit us very well. He advises this as the Canadian laws are very strict regarding potato culture and the keeping of diseased tubers out of the country.

New Seed Potatoes Needed.

The absolute necessity of providing the best varieties of seed potatoes cannot be too strongly insisted upon. In a lengthy article in the December issue of the Journal of Agriculture, Pro. W. T. Macoun, Horticulturist of the Dominion Experimental Farms, says, in relation to this point:

"During the twenty years in which I have had charge of the experiments with potatoes at the Central Experimental Farm, Ottawa, I have been many times convinced that there are few, if any, crops which can be improved so much by better methods of cultivation as the potato. There is no field crop that I know of where such a range in yield between different varieties

and different strains of seed is found. In 1904 in a test of 75 varieties of potatoes at Ottawa, under fairly uniform conditions, the most productive variety yielded at the rate of 454 bushels an acre, while the least productive yielded only 123 bushels an acre, a difference of 431 bushels an acre. In 1905, in a test of 78 varieties, the highest yield was at the rate of 475 bushels an acre, and the lowest 114 bushels an acre. During the years 1906, 1907, 1908 and 1909, the yields in the experimental plots have been much reduced owing to drought, and other causes which will be discussed later, yet the difference between varieties is still marked, the most productive yielding at the rate of 321 bushels an acre in 1909, while the least productive yielded only 17 bushels an acre."

The Potato Canker.

Here it may not be amiss to note the fact that a potato disease, or canker, was recently discovered at Red Island, Placentia Bay, and that the Dominion Government considered the matter of such importance that Dr. Gussow, the botanist at the Ottawa Experimental Farm, was sent to Placentia Bay by the Dominion Minister of Agriculture, Hon. Sidney Fisher, to investigate this disease. He has already published a bulletin, through the Department, in relation to the subject, which, I understand, is being reprinted and circulated throughout this Colony by order of the Minister of Agriculture and Mines, Hon. S. D. Blandford; and his opinion is that not only are the potatoes of Red Island diseased but also the potatoes all along the shore. He ascribes this to imported seed from Europe, first of all, and to the lack of quicklime for a dressing for the land, to kill the fungus in the ground. He also declares that the whole of the potatoes in these localities will have to be destroyed and must not even be fed to cattle, as the droppings of the cattle would spread the disease. In his judgment the

quickest and best cure would be to give the land plenty of quicklime, as if this were done potatoes could be sown again in the ground in a year's time, while otherwise the ground would require a rotation of crops for six years before potatoes could be again set in it.

Lime-Kilns Required.

He says there is a similar disease in turnips and cabbage, which, I apprehend, is what some here call hurl-d feet, and that most of the land throughout the colony requires an abundance of lime, which is the only preventative of the disease. Pro. Gus-sow was surprised to learn that lime cost 74 cents a bushel in Placentia Bay, a price prohibitive to the people and obliging them to do without lime. He advocates that the Government start lime kilns in convenient localities where the limestone can be found and burned, as the cost should not be more than 10 cents per bushel plus the freight, pointing out, moreover, that if the lime stone were near the people they could burn it themselves. I would suggest the establishment of lime kilns in various parts of this island as a partial, not say a total, failure of the potato crop would be a public calamity. Lime costs only a shilling a barrel in England, while here it costs \$1.50 to \$1.80, a prohibitory price for farming purposes and one which should not be allowed to continue, as it is fatal to the progress of agriculture on even a small scale.

On this subject of the use of lime as a farming adjunct, I might quote Prof. Zavitz, who says:—

"The soil on many farms looks as if it would be greatly benefited by the use of lime, and I understand that there is an abundance of lime-stone near at hand, and yet the burnt lime is so expensive on the Island at the present time that the farmers cannot afford to purchase it for using on their land. Some experiments in the use of lime

"would be of great benefit. The question of cheaper manufacture could also be looked into."

Cabbage.

As the figures show, the product of cabbage trebled in this Colony in the past ten years, and the problem here now is to so preserve cabbage as to make possible the sale of this article during the winter months. Dr. Robertson is authority for the statement that the preservation of cabbage forms almost as serious a difficulty in Canada as it does in this Colony, so much so that cabbage with them is not regarded as a winter keeping article at all. At St. Anne de Bellevue, the method adopted with regard to cabbage is that it is taken from the ground whenever possible, on dry days, and, the outer leaves being removed, the heads of cabbage are then stored in concrete cellars, in pounds or compartments of slatted wood, which provide a free circulation of air all the time. It would be difficult, if not impossible, to adopt this process in Newfoundland, where cabbage is grown in such large quantities as in the vicinity of St. John's, as cellar accommodation, not to speak of cold storage, could not be obtained for anything like such a quantity of material. I might say that at Macdonald College the above method is also used for the storing of all root crops.

Hay.

Mr. L. S. Kilinck, Professor of Cereal Husbandry at Macdonald College, gives the opinion that nothing can displace Timothy as a general hay crop. In the matter of hay, he says, the province of Quebec shows, as a whole, an improvement in the amount of Timothy grown. He holds, however, that a better result would be obtained if clover were sown with the Timothy. On his estimate double the quantity of seed that is ordinarily put in the ground, should be sown and a mixture of red clover and Tim-

othy, with orchard grass, Alfalfa, red top and brome grass, which would give an excellent after-crop. Alfalfa is more nutritious than Timothy and gives a much larger yield to the acre than hay. It would be necessary of course, to experiment with these seeds before putting them into general use, and this could be done as suggested by Dr Robertson, through the agency of experimental plots and carried out by capable farmers. Professor Klinck advocates rye as a winter crop. He says it grows one foot a week for six weeks, is sown in September and reaped in the spring. For barley he recommends Mandachour variety to be obtained from Guelph Agricultural College, and as an early high yielding variety the Dubency, which is obtainable from John A. Bruce and Company, of Hamilton.

Oats.

The growing of oats by our people has now been virtually abandoned, though there is the testimony of Rev. Bro. Ennis, Principal of Mount Cashel Industrial School, to the effect that oats can be raised and sold at a profit for fifty cents a bushel. Formerly there was a comparatively large growth of oats in this Colony, but of late years our farmers have been devoting less ground to this purpose. An objection urged on their behalf is that they have no means of thrashing it, and this difficulty might be got over by the Government importing thrashing machines, and providing them for public use, charging a fee which would be sufficient to cover the cost of operation.

Seeds.

Pro. Geo. Clarke, head of the Dominion Seed Bureau, gave me valuable advice and information regarding seeds suitable for our country and climate, and also supplied me with papers and sample cases of Swedish seeds, all of which I have deposited with the Department of Agriculture and Mines. He strongly favors the importation of our seeds from the General Swedish Seed Company, of

Sweden, stating these are the best he finds and pointing out that as the climate and land of Sweden are similar to ours, the seeds would probably suit us much better than British or Canadian seeds. He states that the Canadian Government imports seeds from all parts of France and Germany, suitable for places in Canada which possesses similar climatic characteristics. He advocates the purchase of Timothy hay, clover, and Italian rye grass seeds from Sweden. Regarding oats he thinks that if the Government wish to import the best kind to distribute amongst our farmers, they should send to Professor Zavitz at Guelph for a quantity of Danberry variety oats. He also intimated that he would be very pleased at any time to test, free of charge, any seeds the Government of the people of this Colony would send him. Seeds are constantly being sent from the United States now to his bureau in order to be tested.

The providing of good seed is a matter that has been entirely overlooked in this Colony. Canada's experience has been that until the question of the sale and distribution of seed was regulated by a statute, the agricultural industry suffered very severely from the indiscriminate sale of seeds and the inevitable circumstance, that deteriorated, if not worthless, material was constantly disposed of. The statutes that have been enacted by the Dominion on this subject might with profit be incorporated in our enactments, and the Department at Ottawa would undertake the testing of seeds. It is in the power of every person in Canada to send samples of seeds to the seed bureau at Ottawa and have them tested and the inspectors or teachers who go about the province instructing and lecturing to the farmers, are all capable of testing the quality of seeds and of condemning those which are unfit for sale. I have no doubt whatever that legislation in this direction would have a ma-

terial result in improving the quality of seed sold, and the results therefrom in this Colony.

As an evidence of the importance of the providing of good seed, I might observe, in passing, that Professor Robertson in an address at Halifax the other day declared that "the use of selected seeds in Nova Scotia would have given that province last year a yield of a million dollars more in wheat, oats and barley alone," and he congratulated Nova Scotia on the fact that it spent last year on specialization on agriculture \$60,000, and in technical education \$40,000, while Canada, as a whole, spent last year in specialized aids to agriculture \$2,200,000, and in the United States they hold that every dollar spent in this way brings back twenty dollars. The agricultural industry in Canada, Professor Robertson pointed out, was the growth, in so far as its export were concerned, of practically the past two decades, and to-day Canada pays all her debts as a nation by what she sells to others, and of this amount agriculture contributes over fifty-one per cent., forests, fisheries mines and manufactures making up the remainder.

Demonstration Plots Prove Valuable in Canada.

Experimental demonstration plots for the teaching of different branches of agriculture in varying localities, are the latest departure by the Federal Government at Ottawa. These were initiated some ten years ago by Dr. Robertson, but owing to the calls upon his time at that period, owing to the Boer war, which necessitated the Dominion Government detaching him from his regular duty in order to take charge of forage and food stuffs to South Africa, the method was not extensively followed. It is now, however, being taken up again on a larger scale. The idea is to induce the most intelligent farmers to set aside a plot for the demonstration of the raising of given vegetables, cereal, root or fruit crops, the seed

being supplied by the Government and the culture thereof being carried on under instructions issued by the Department of Agriculture or one of its inspectors. This demonstration plot thus becomes an object lesson for the farmers of the whole locality, who are gathered from time to time to observe the progress made by the seeds therein and to have the methods of culture explained by the inspectors or teachers, so that the following year every man in the place should be able to enter upon the cultivation of this particular product himself.

Agricultural Convention.

The desirability of having an Agricultural Convention in St. John's next autumn, in connection with or perhaps distinct from, an Agricultural Exhibition, may perhaps commend itself to the Government and if it could be found possible to induce some agricultural scientist from Canada to visit the Colony at the time and deliver a series of addresses to those partaking in the convention, it would unquestionably be helpful, and the expense incurred would be a very small matter as compared with benefits to be gained therefrom. My invariable experience in my visits to the several Canadian institutions referred to, was that all the officials at these places were most keenly interested in the possibilities of agricultural development in this Colony and sincerely desirous to facilitate us in every way. All the information and the resources of the institutions were freely placed at my disposal and I have no doubt, from the personal expressions of all of these gentlemen, that the Government would experience no difficulty in securing a visit annually from some leading Canadian specialist in a particular branch of agricultural progress, whose presence here for a week or two, to advise upon the matters pertaining to his particular branch, would be extremely valuable.

Land Clearing Bonuses.

It is worth the careful consideration of the Government, whether or

not the revival of the policy of granting a bonus for the clearing of land should be undertaken. From the amount of information which I have been able to obtain up to the present moment, I am not satisfied whether the revival of such a policy would be necessary in the mean time. In view of the fact that so much improved or cleared land throughout the Colony is unused, and that other extensive areas of land eminently suitable for cultivation with a minimum cost in clearing, are lying fallow, it is debatable whether such a stimulus is necessary at the present time. In the event, however, of the bonus being revived it should be given only to bona-fide farmers, and care should be taken as to where such bonuses should be given, with the further proviso that none should be paid except when land so cleared is under cultivation, except in the cases of persons starting new farms, when half the amount per acre might be paid when the land is cleared and the balance as it is cultivated, running for a period until all the land is under cultivation. Every measure designed for public improvement necessarily fails to have its full effect in some instances, and numbers of people now have more land cleared than they can cultivate, having been impelled to the effort when the land bonus policy was in active operation or having acquired the land from the original holders since that period. One of the first steps that should be taken by the Government before entering upon this policy, would be to institute a survey of all the lands now occupied, and of the best available unoccupied farm lands; and open up the latter by means of roads. In some of the places that I visited all the good farming lands have been granted, but are not being cleared or worked, and in many instances the land so granted is probably only held by the grantees for speculative purposes. I would suggest that the Crown Lands' Act be so amended as to provide that unless agricultural land granted for farming purposes

be put under cultivation within a stated period, it should revert back to the Crown. This is the law in Canada and if it were made the law in this Colony the effect would be to prevent farm lands from being tied up for speculative purposes. With respect to the granting of bonuses for the clearing of land, I might observe that Archbishop McDonald advises that no bonuses be given until the land is fully cropped; that Sir James Whitney, Premier of Ontario, advocates the same policy and a loan to farmers at interest, as in Australia.

Prof. Cumming's Recommendations.

Professor Cumming, of Truro Agricultural College recommends Ayrshire and French Canadian cattle as the most suitable for us, they being the hardiest as well as good milkers and beef makers. He advises getting graded, not certified, stock, saying graded stock is just as good as certified as it is cheaper, Ayrshire cows would cost \$100 and Yearling bulls \$50; French-Canadian cows \$50 to \$100, and bulls \$100. For sheep he recommends Cheviot and Black Faced as the best and hardiest, and in purchasing cows and sheep we should, he thinks, get those ready to calve and lamb, and also some yearlings. He considers Berkshire and Yorkshire pigs to kill at six months, and weighing about 150 pounds, the best. He offers to send an expert to Scotland to purchase stock, asking only expense. He advocates admitting hay free of duty and advises farmers not to sell their hay, but to keep live stock, as nothing pays as well as stock. For instance, pork costs only five cents a pound to raise in Nova Scotia and rape, clover, corn and milk, which he considers the best fatteners for pigs, can all be obtained from the farm itself. For poultry he recommends for all general purposes Plymouth Rock and Minorca, they being the best winter layers. For early potatoes he advises "Early Six Weeks" and "Beauty of Hebron," and for late crops "Prince Albert" and "Dakota Reds." For turnips he

recommends Aberdeen seed for early crops and any Swede for winter-keepings ones.

Sable Island Ponies.

The introduction of Sable Island ponies is a matter that might be considered by the Government. These hardy animals are well suited to the needs of this Colony, and they are to be obtained very cheaply at Halifax, when the annual shipment from that Island is made there by one of the Canadian Government cruisers. There are some seven or eight hundred ponies on Sable Island, and a few years ago the Canadian Government introduced two stallions there from the mainland to help improve the breed, with very beneficial results. An approved selection of these animals might be added to the stock at the Agricultural Stables, or might be placed in certain farming centres, for there are various uses to which animals of this kind could be put, and where they would be an economy for a farmer on a small scale, which would not be possible with a full grown horse.

Agricultural Text-Book.

Throughout Canada and the United States the dissemination of agricultural knowledge, through the agency of the schools, is almost universal in the rural districts; and an agricultural text-book should certainly be an adjunct in every school in this Colony, and where possible, instruction of a steadily advancing character should be provided. The provision of a text-book would be the necessary complement of any agricultural policy, and prizes might be given for example plots in connection with the schools. This was a method which Professor Robertson found very valuable in Canada.

Cold Storage.

This question is bound up with that of cold storage for fish and other products which are to be preserved in a fresh condition. The cold-storing of the more valuable vegetables and fruits, as well as meats, poultry and

game, could be effected in the same manner as the refrigerating of fish; and the Dominion Cold Storage Commissioner, Dr. Ruddick, with whom I discuss the subject very fully at Ottawa, thinks very rapid advances will be made in the next few years in solving the mechanical problems connected with the cheapening of this accessory to the profitable commercial utilization of so many of the products of agricultural endeavor.

The Canadian Government subsidizes cold storage warehouses to the extent of thirty per cent. of the cost of the building, by giving fifteen per cent. of the completion of the building, seven per cent. at the end of the first year, four per cent. at the end of the second year, and two per cent. annually at the close of each of the two next succeeding years, making up the total sum of thirty per cent. in five years. The Government also arranges for refrigerator cars which run from station to station and take up, or set down, articles requiring cold storage, the Government guaranteeing two-thirds of the cost and allowing four dollars per car for icing, or, in other words, if the car pays, the Government is not called upon, and if otherwise, it makes up the deficiency each trip. A grant is also made to the Maritime Province branches of Stock Breeders' Associations to pay the expenses of delegates to and from Ottawa when attending annual meetings and conferences of Cattle Breeders' Association of Canada.

Reduced Rates.

One of the matters on which there was a unanimity of opinion among our own farmers while I was conducting my inquiries, was the desirability of securing reduced rates for produce on our local trains and steamers. This, I am glad to say, has been satisfactorily accomplished since, by the action of the Premier in securing from the Reid and Bowring Companies a reduction to the uniform figure of twenty-five cents per barrel within the Colony, with the result that the

statistics of the Reid Company show in the month of November the increase in such freights carried was 22 per cent.

I append here a brief summary of places visited, in the Colony and in Canada.

Places Visited in Colony re Agriculture.

CODROY—Starting in July I visited all the settlements in Codroy valley, and find that there are about 80,000 acres of land suitable for cultivation. The soil is similar to that of Nova Scotia and Cape Breton and is intervale lands with uplands of rich red loam. A return sheet of the places visited and number of families therein, as well as other statistics relating to farming, will be found included in the papers accompanying this report. The great drawback to farming operations in Codroy, Little River and vicinity is the great need for roads. At South Branch, a new and thriving settlement, there is not one road. The provision by the Government of roads for farming sections is most essential.

ST. GEORGE'S BAY—At Main River, Robinson's Middle Barachois, Crabbe's Brook and Highland River are large tracts of fertile land, fully as extensive, I am informed, as in the Codroy Valleys and these, being situated near the line of railway, could be easily farmed, if roads were made from the track to the arable areas. The people here, as in Codroy Valley, advocated better roads, better breeds of cattle and sheep, bonuses for land clearing and a law by which farm land not utilized should revert to the Crown.

STEPHENVILLE—At Romaine or Kippins, Port-au-Port and vicinity, are large tracts of good land, and farming is actively prosecuted. Over one thousand tons of hay are cut yearly on part of the intervale lands and much more could be raised and cut, if only roads were provided to make these areas accessible. Here fruits of all kinds are raised, English strawberries in large quantities, which sell

at fifty cents per gallon, and Professor Cumming believes that apples could be raised along our West Coast, equal to those of Nova Scotia. From Stephenville in 1908 some 120 cattle, large quantities of beef and mutton, fourteen hundred barrels of potatoes and turnips; besides butter, were supplied to St. John's and along the line of railway. An outlay of \$250 would give the people a most necessary road to extend their operations. I may say that at their own cost the people of this place have constructed quite a portion of the roads.

GRAND FALLS—I did not visit Deer Lake country, but saw Mr. Nichols and find that he still prosecutes farming extensively. Not much farming is done in Bay of Islands, though good land exists in places of Curling. At Grand Falls and Rushy Pond, Mr. Bayly, who has charge of the A. N. D. Company's farms, is doing good work. He is an enthusiast and we need more like him. Mr. Beeton, President of the Paper Mills, takes a deep interest in farming, and is doing all he can to encourage it. At Grand Falls the Company has eleven acres cleared and cultivated and 37 at Rushy Pond, a few miles away. I saw clover grown here, equal to any I saw in Canada. Manure is what is needed there; and great difficulty is found in procuring it. The difference in growth in vegetables was marked, where stable manure was used, as against other manure, thus showing the value of raising cattle on farms to properly fertilize the land. At Millertown I found some of the residents clearing land, preparatory to farming operations and some of the areas are under cultivation and give results similar to those at Rushy Pond. At Bishop Falls and Norris Arm except on Mr. Constable's farm, not much is done, but the soil is good and the same applies to Botwood.

In Bonavista Bay, especially in Bose Bay, Clode Sound, the land is particularly suited for farming operations.

CONCEPTION BAY—In Harbor Grace and that district generally, the people do considerable farming to supply their own requirements, but much more could be done. Indeed, all Conception Bay is admirably adapted for sheep and cattle raising, as good grazing grounds exist in large areas, but the people will not go into sheep or cattle raising because of dogs. Carbonear, Mosquito, Harbor Grace to Pipe-Track (south side being under Sheep Act) Upper Island Cove to Coley's Point, Bay-de-Verde, in Bay-de-Verde district and Port-de-Grave are the only places where dogs are now kept. In Harbor Grace district there are only 300 dogs, of which 200 are in the town of Harbor Grace. I am informed that if Harbor Grace would abolish dogs, Carbonear and Port-de-Grave districts would do the same, and then the whole of Conception Bay would be free from these animals, and then the raising of cattle and sheep could be gone into without fear of loss from this cause.

Places Visited in Canada re Agriculture.

CAPE BRETON—Found farming conditions in Cape Breton similar in many respects to our own, fishing being combined with it. Exports are butter, poultry, sheep, cattle and meat, but they are not large, as the local demand takes nearly all that can be raised. Farmers favor Ayrshire cows as best suited to our climate, Shropshire sheep, Yorkshire pigs, Prince Albert (Calico and MacIntyre being the same potato under different names) as best winter keeping and producing potatoes. Consider no manure equal to stable manure for all crops. Farmers receive nothing from either Federal or Provincial Government. Truro Agricultural College is, however, kept up by Provincial Government, assisted by Federal Government. Travelling farm instructors and dairy instructors visit Cape Breton every year and give lectures to farmers. Exhibitions are held and

prizes given for best field of oats, best kept farms, etc.

TRURO—Here is located the Agricultural College for the Province of Nova Scotia, managed by Professor Cumming, a graduate of Guelph. His recommendations as to stock, seeds, etc., have already been summarized and bulletins supplied by him have been handed to the Department of Agriculture and Mines. At Truro, saw also Mr. Frank Stanfield, of the Stanfield Woollen Mills, who has been asked by the Premier to visit this Colony and interview the Government with regard to establishing a branch factory here, if conditions warrant.

PICTOU—Visited some farms in this vicinity and interviewed some of the farmers. Found their ideas similar to those above noted. Also interviewed Archbishop MacDonald, who takes a deep interest in Newfoundland and is a practical farmer. He thinks the Government is acting wisely in endeavouring to stimulate agricultural progress in the Colony. He recommends exhibitions and good prizes, travelling instructors and legislative regulation of the import and sale of stock and seed. If land bonus is given it should not be paid until the ground is fully cropped. He favors French-Canadian cattle and Black-faced Highland sheep for our climate, and considers Prince Albert potatoes from Prince Edward Island as the best for us for seed.

PRINCE EDWARD ISLAND—Visited Charlottetown and Summerside, the largest produce growing and exporting centres. The Provincial Government gives forty to one hundred scholars, recommended by farmers' institutes, ten day trips yearly to attend short courses at Truro Agricultural College, allowing them ten dollars each for expenses. The Provincial Government also grants \$1,500 annually to counties for exhibitions. Special prizes are given to young farmers who, sub-

ject to the decision of experts, judge the cattle and produce. The Federal Government sends lecturers to visit and lecture to farmers' institutes on dairying, stock raising and farming generally. It also gives prizes for best laid out and best kept farm in each county—Prince's Queen's and King's—likewise prizes for best locally raised seeds of all kinds. Farming authorities here recommend for us Prince Albert potatoes, French Canadian, Ayrshire and Dairy Shorthorn cattle and Cheviot sheep.

✓ **TORONTO**—Saw the Premier, Sir James Whitney, and Professor Mavor, of Toronto University. Both consider that bonuses for clearing land, to be paid when it is cropped, a desirable inducement for farmers. They think we should locate farming lands and induce farmers from the Mother Country, especially Irish and Scotch, to settle down in this Colony. They further recommend bank loans, as in Australia, to farmers at three per cent. In their opinion, exhibitions tend more to encourage farming than anything else.

OTTAWA—Here visited the Department of Agriculture, where the Deputy Minister, Mr. O'Hallaran, gave all information possible. He states that the Federal Government does not assist by bonuses for land clearing, or hold out any inducements to prospective farmers, other than placing one experimental farm in each province, sending lecturers through the country and granting free seeds, though providing subsidies to cold storage plants and cars. Saw also Dr. Ruddick, Dairy and Cold Storage Commissioner; Prof. Clarke, Seed Commissioner; and Dr. Rutherford, Veterinary Commissioner, summaries of whose views have already been given. All these officials, as well as other with whom I came into contact, offered their services freely to do anything they could to help the Government in carrying

out its agricultural policy. Bulletins, pamphlets and reports, relating to their respective views, have been placed by me in the Department of Agriculture and Mines.

ST. ANNE DE BELLEVUE—Visited Macdonald College at St. Anne, twenty miles from Montreal, where Dr. Harrison, who was in charge, Professor Robertson being at Washington, and the others of the officials were most courteous and freely supplied information. The management here offered to supply us with certified stock to a certain quantity, at a less cost than we could procure it at any other place, except at Ottawa, quoting us cattle—bull and heifers—fifteen months old, from \$60 to \$75 per head. I would strongly recommend some Ayrshire, French Canadian and Dairy Shorthorn cattle being got from them. I was shown over the farm by the Superintendent, who was most painstaking in explaining to me how the crops were managed. Here I saw peat land in its natural condition, as it is found in this Colony, and the same land (divided only by a road) in an advanced state of cultivation. This had been drained by digging a ditch around it six feet deep and four feet wide. Then it was ploughed and lightened with stable manure, reploughed and sown, and from it were taken last year, 20 tons turnips, 22 tons corn, and 2½ tons of hay per acre. They have a five year rotation of crops at this farm and to make hay lands, sow with plenty of timothy, clover, rye grass and alfalfa, as this makes a good mat and protects the roots of hay. All are of the opinion that stable manure is the best.

Thanks Canadian Officials.

I wish to thank Professor Cumming, Truro Agricultural College; Professor Mavor, Toronto University; Mr Wyatt and others, P. E. Island; the Dominion Deputy Minister of Agriculture; Dr. Sounders, C.M.G., Principal of the Ottawa Experimental Farm; Professor Rud-

dick, Dominion Dairy Commissioner; Professor G. H. Clarke, Dominion Seed Commissioner; Dr. Rutherford, Dominion Veterinary Commissioner; Dr. Gussow, Dominion Botanist, all of Ottawa, Dr. Harrison and other professors and employees of McDonald College, St. Anne de Bellevue, for kindnesses and courtesies extended to me and also for valuable information, which they afforded me.

Newfoundland vs. Alberta.

The subjoined comment of Mr. W. Beach Thomas may well serve to justify one in strongly advocating an increased agricultural interest in this Colony:—

"It, when I return to England, there is a man with whom I am well acquainted, and who wishes to become a homesteader in the west, I would rather encourage him to take up a homestead in New-

"foundland than in sunny Alberta.
 "After all, you have a great deal
 "that the Canadians have not. Rivers
 "and lakes are close at hand
 "whilst they are without water.
 "Your market is absolutely at your
 "elbow and you have a Government
 "which helps the homesteader, and
 "land which can be obtained for
 "almost nothing. Timber for constructing
 "homes and for fencing
 "is on all sides, and I would say
 "confidently to my best friend in
 "England that I should recommend
 "him to try Newfoundland if he is
 "seeking for himself a homestead
 "abroad."

I have the honour to be,
 Your Excellency's most
 obedient servant,

A. H. SEYMOUR,
 Commissioner.

APPENDIX A.

Letter of Instructions From Hon. Sir E. P. Morris, Prime Minister.

Prime Minister's Office,

St. John's, Newfoundland.

21st June, 1909.

A. H. Seymour, Esq., M.H.A.,
City.

Dear Mr. Seymour:—

In addition to the many conversations we have had in relation to the work which the Government propose to entrust you with, and the details of which I have already gone into with you, I now desire to give you a few headings to which the Government would like you to give special attention:—

Potatoes.

The Government want to know everything that can be learned in relation to the present crop of potatoes in Newfoundland. Enquiries should be made in all the districts as to the yield per barrel; the causes which have reduced the yield; and, particularly, the run of small potatoes. I understand the average yield is seven barrels for every one barrel of seed. The Government hope to be able to change all this, bring up the average to at least fifty barrels for each barrel of seed. This, as you will perceive, will double the present crop of potatoes, and would mean three quarters of a million dollars added to the earning powers of our people. Then, special enquiry should be made in order to get reliable data as to the best qualities of seeds, such as Early Roses, Beauty of Hebron, etc. You will want to subdivide these again into early and late varieties. You could also make enquiries as to the

best places from where potatoes could be imported, whether from England, Canada or the United States, and the quality and yield guaranteed in these places; and, further, the best time for importing; whether in the autumn or in the spring. Then it would be well for you to reduce all the information obtained to a formula, setting forth the best manner to preserve potatoes after they have been taken out of the ground; also in sowing, whether they should be cut, how they should be cut, whether it is more profitable to put them in cut or whole, how they should be planted, whether in drills or beds, and the best kinds of manure to be used, also everything in relation to their cultivation. I would suggest your obtaining this information not alone by personal interview, but by the issuing of a carefully worded circular, prepared and signed by the Secretary of the Board of Agriculture, asking for this information. A few hundred of these circulars might be sent out all over the land, and when the replies are obtained the information might be tabulated by you. In other words—what the Government require is the best and most reliable information in order to improve the potato crop all over the land. You might also pay some attention to ascertaining what would be the best method of distributing free seed to the people. For instance, if the Government import a very expensive variety of seed they would want it distributed on the understanding that the first year's results would not be used for food, but will be reserved for seed for the following year.

Cabbage.

With regard to cabbage, the Government want information as to the very best seeds that would suit our climate, and what I have said in reference to potatoes will apply, to a certain extent, to cabbage. We want to know where to obtain the seeds best suited to our soil and climate. All the seeds that are imported into this country should be tested and guaranteed. At present there is a very great disparity in the price of the seeds sold to our people, which in itself is sufficient to indicate that all are not purchasing the best seeds. Special attention will have to be given, and by you to the question of the preservation of cabbage. We should certainly adopt some better method of preserving it than by putting it or putting it in cellars or houses where most of it becomes decomposed and a great portion of the entire crop is thus rendered valueless, especially during the months when the demand for that vegetable is greatest, and high prices are offering. At present all the stores throughout the island are stocked with American cabbage which is imported here during the months from March to August. Enquiries might be made by you from the Customs or other authorities as to the quantity of cabbage imported during these months. Special attention might also be given by you with great advantage to the question of cold storage in its application to vegetables, what its cost would be, and whether a cold storage plant could not be established in the various districts of the Colony for the preservation of cabbage and other farm products. You might enquire from abroad, where cabbage is raised, as to what system has been adopted for the preservation of the vegetable. I am told there are quite a number of simple methods, some of which have proved effective. The importance of this cabbage industry will best be understood when I point out to you that in 1891 our total cabbage production in the country was only four million (4,000,000) whereas between

that year and 1901—during which period an effort was made to stimulate agriculture by land bonuses, etc., and establishing Agricultural Societies—the quantity jumped to thirteen million (13,000,000), and I have no doubt that if we could show our people how to properly preserve their cabbage crop, that quantity could be easily doubled.

Cattle.

Special enquiries will require to be made by you as to the whole question of the best breed of cattle suited for this country; in what places in the country cattle are now raised for sale; and also the quantity raised and the quality of the cattle. Circulars might be sent to magistrates, farmers and others in the outports and St. John's in relation to this subject, and also for the purpose of obtaining all information as to the class of cattle raised; where they are marketed or sold; what the country suffers from in point of raising cattle of an inferior breed and size, and the difficulty of feeding and producing large oxen; find out the quantity of cattle sent to St. John's from the outports and sold last year; also the quantity arriving by train, especially from St. George's, Bonavista and other places; and also ascertain the quantity of meat sent to Bell Island, Grand Falls and other industrial centres last year. In other words we want to know the local production and consumption of local meat during last year. You might also, from the information thus obtained, be able to make some suggestions as to how things could be improved, and as to how a better class of cattle can be raised and produced in this country.

Hay.

This is a matter which you will want to go into thoroughly. Find out the quantity imported last year and what our people paid for it. You will want to go carefully into the whole question, with a view to reporting upon the matter as to whether it would be in the best interests of the Colony and the farmers to allow hay

to come in duty free, in order to enable farmers here to raise cattle, and, in that way, do a double good by providing manure for the land and raising cattle for sale. The great drawback in the past has been the selling of hay off the farm. People too often think that they are benefitting themselves when they sell such products off the farm. The contrary is, however, the case. The more important and more beneficial plan is to convert the hay into food for the raising of cattle, and in that way not alone dispose of the hay to the best advantage, but create a cattle raising industry on the farm; and raise vegetables by means of the manure; in that way keeping the farm continually in good condition.

Pigs.

You will also want to make a complete enquiry as to the quantity of pork raised throughout the Colony; whether it pays the people to raise it; and find out whether, if it were encouraged, the people would go into pork-raising on a larger and more extensive scale; also, what that encouragement would mean; in other words, what form it should take. Find out the quantity and value of the pork imported yearly, and whether, with the high price of pork from year to year, pork could not be raised to advantage in this country. You might also enquire as to the best breeds of pigs most suited for this country, such as Berkshire, etc.

Land Bonus.

This is a matter you might enquire into also. Find out what its effect has been in the past, and what results have been accomplished by it. Ascertain the exact amount that has been expended in this direction in the past, and learn, through circulars, how much land, for which bonuses were paid, is now under cultivation. Also give careful study to, and find out by circulars or otherwise, the best manner in which the bonus money should be expended in the future. That is to say, supposing twenty dollars per acre will be al-

lowed,—should it be paid after the land has been cleared or should it be paid in instalments; in other words, half of the amount after the land has been cleared and the balance when the first crop has been taken off it. I have known of many cases where land was cleared merely for the present labour which it afforded. That, of course, is not the object of the bonus; it is given to stimulate agriculture by encouraging the clearing of the land with a view of its being permanently cultivated.

Vegetables.

You will notice by reference to the Governor's Address at the opening of the Agricultural Show in the British Hall last year, the very many valuable suggestions made by him therein; also his Address at the Anti-Tuberculosis meeting recently. You will notice that he recommends cauliflower, beet, carrots, etc., as vegetables that might be raised in addition to or instead of cabbage, because these are better than cabbage, being more nutritive and less indigestible. You could also make enquiries as to what vegetables it would be best to encourage amongst our people as food, and where they can be obtained; which ones gives the best results; the best methods of raising them; and the most suitable soil and manure. Circulars might be issued in relation to these matters also.

Sheep.

Special attention should be given to the question of sheep-raising. The Government propose taking up this whole matter on a large scale during the coming session. We propose to give a bonus for all wool grown in the country as well as for the imported article, with a view of stimulating and creating, if possible, a large sheep-raising industry and woollen manufactories. This, of course, will necessitate your going into the whole question of the extermination of the dogs. The dogs must be destroyed. The only way, it appears to me, that this can be done effectively is by the

encouragement of sheep-raising; in other words, a man's dog cannot be destroyed unless he is compensated for its loss. Every man who kills his dog ought to be given a sheep in exchange. I believe that if the people could only be shown the great advantages and profit of sheep-raising they would at once exterminate the dogs. In addition to the foregoing, the Government propose, during this summer, to have a thorough investigation made into the whole question of the possibilities of peat as fuel, with a view of assisting people in having fuel near their own homes. This will render it unnecessary in many places to keep dogs. You might find out the number of dogs now in the country, and have a map prepared showing the districts in the Island where dogs are prohibited, and where they are still allowed. This might be tabulated, to show the number in each district. You will also want to report upon the best breeds of sheep most suitable for this country, a hardy breed to withstand our climate. When in Canada you could also make enquiries as to the possibilities of establishing woollen mills in this Colony in connection with sheep-raising. Information upon this point could be obtained by personal interview, as well as by correspondence with leading firms in this line of business both in Canada and England. The Government propose taking up with the Superintendents of Education and also with the Council of Higher Education the question of having a Primer on Agriculture included in the curriculum of our public schools; also the question of identifying the teachers with the Agricultural Societies by allowing them a small annual amount to act as Secretaries; also the question of establishing scholarships for the most proficient students on the subject of Agriculture; as well as Scholarships for the most proficient students on the subject of Agriculture; as well as Scholarships for the best pupil-teachers on that branch. You might also

make enquiries in Canada as to Agricultural Societies there.

Railway and Steamship Rates.

Enquiry should be made into the whole question of rates by steamers and trains at present charged for the conveyance of cattle and farm products, and whether, if the rates were lowered, it would give a stimulus to agricultural development. You might point out cases in which the high rates of transportation for agricultural products prevent a broader development along this particular line. I intend to take this matter up with Messrs. Bowring Brothers, and the Reid Newfoundland Company upon my return from England, with a view of having the whole question dealt with. I am quite satisfied that the high transportation charges are responsible for seriously hampering agricultural development.

There are very many other matters that I should like to go into in this letter of instruction in detail, but as I am leaving by the train to-morrow I am right in the midst of work, and can only jot down, without preparation, a few headings. As I have already said, however, I have gone into this matter with you on several occasions exhaustively and in detail, and this letter will serve as a sufficient guide to you for your work. I am a great believer in what can be done by an up-to-date, progressive and vigorous Agricultural Policy; a policy that will touch every district, every settlement, and every home, if possible, in the country. We have three million dollars (\$3,000,000) leaving the country every year for agricultural products, and the greater part of this amount, in my judgment, might easily be kept in the country. An effort will now be made to accomplish that object, with what result time will best show.

With best wishes, I remain,

Yours faithfully,

E. P. MORRIS.

[NOTE.—The other appendices have not been published.]



